

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number  
WO 2004/047036 A1

(51) International Patent Classification<sup>7</sup>: G08B 13/14, (74) Agent: DANNEMANN, SIEMSEN, BIGLER & IPANEMA MOREIRA; Caixa Postal 2142, Rua Marquês de Olinda, 70, CEP-22251-040 Rio de Janeiro, RJ (BR).

(21) International Application Number:  
PCT/BR2002/000159

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(22) International Filing Date:  
21 November 2002 (21.11.2002)

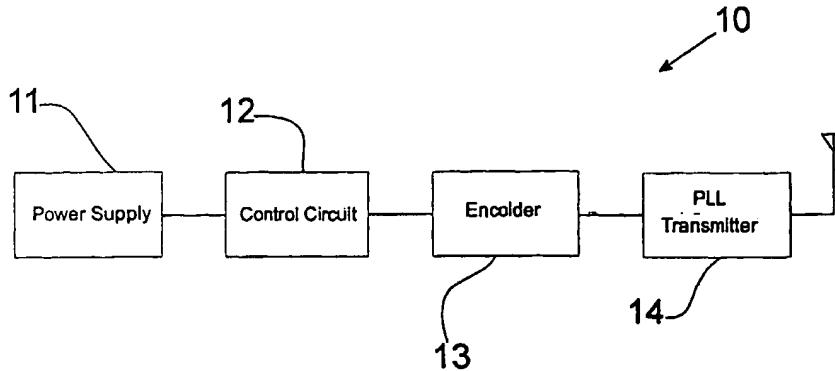
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(25) Filing Language: English  
(26) Publication Language: English

Published:  
— with international search report

[Continued on next page]

(54) Title: AN ELECTRONIC DISTANCING ALERT SYSTEM AND A PROCESS FOR GENERATING PHASE SYNCHRONISM



WO 2004/047036 A1

(57) **Abstract:** One describes an electronic distancing alert system comprising: (i) a transmitting unit (10) positioned on a first body and comprising an encoder (13) associated with a signal modulating and transmitting circuit (14); and (ii) a receiving unit (20) positioned on a second body and comprising a signal receiving and demodulating circuit (14) associated with a decoder (23); the encoder (13) and the signal modulating and transmitting circuit (14) generating and transmitting an identifying code associated with a carrier wave, the identifying code being received by the receiving and demodulating circuit (14) and recognized by the decoder (23), which actuates a triggering circuit (27) upon distancing between the first body and the second body and absence of reception of the identifying code, the encoder (13) generating a plurality of identifying codes combinable with a plurality of different generation frequencies, which are transmitted and received in different fractions of time and in phase synchronism between the transmitting unit (10) and the receiving unit (20). It is also described a process of generating phase synchronism between a transmitting unit (10) and a receiving unit (20) of an electronic distancing alert system, the process comprising the following steps: A) positioning the transmitting unit (10) and the receiving unit (20) connected and close to each other; B) closing a key (CH1) for a determined period of time; C) actuating a memory circuit (25); D) opening the key (CH1).